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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/681,691	05/22/2001	Odie Banks Killen JR.	ERLG.P-020	5311
21121	7590	04/05/2005		EXAMINER
OPPEDAHL AND LARSON LLP				MEW, KEVIN D
P O BOX 5068			ART UNIT	PAPER NUMBER
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DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/681,691	KILLEEN ET AL.	
	Examiner	Art Unit	
	Kevin Mew	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 07 December 2004.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-10 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) 4-6 is/are allowed.

6) Claim(s) 1-3 and 7 is/are rejected.

7) Claim(s) 8-10 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____

5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____

Final Action

1. Applicant's arguments filed on 12/07/2004 regarding claims 1-7 have been considered. Newly added claims 8-10 have also been considered and are currently pending in the application.
2. Acknowledgement is made of the argument regarding the objection to the priority claim mentioned in the previous Office Action. The argument is persuasive and the objection to the priority claim has been withdrawn.
3. Acknowledgement is made of the argument regarding the objection to the title in the abstract mentioned in the previous Office Action. The Applicant's argument is acceptable and the objection to the abstract in the specification has been withdrawn.
4. Acknowledgement is made of the argument regarding the claim objection to claim 1. The correction made is acceptable and the claim objection has been withdrawn.
5. Acknowledgement is made of the argument regarding the 35 U.S.C 112 rejection to claim 1. The correction made is acceptable and the 35 U.S.C 112 rejection has been withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claims 1-3, 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Hahn et al. (USP 5,991,891).**

Regarding claim 1, Hahn discloses an enclosure services processor card (**enclosure 102**, see line Fig. 2) arranged to selectively split a fibre channel arbitrated-loop (FC-AL) (**Fibre Channel Arbitrated Loop (FC-AL)**, see lines 42-44, col. 3) of devices into two split loops (**primary Fibre Channel Loop 110 and secondary Fibre Channel loop 116 are utilized and maintained by a loop coherency circuit**, see lines 33-64, col. 3), said card being adapted to plug into a backplane for a rack enclosure (**loop system**, see element 100, Fig. 2) and including a first switch (**loop coherency circuit**, see lines 11-19, col. 4 and element 122, Fig. 2) operatively connected to a hub (**a hub is interpreted as a combination of the enclosures 102, 104, 106**, see Fig. 2) for said FC-AL, said hub comprising a plurality of port bypass circuits (**Port Bypass Circuits**, see lines 61-64, col. 2, see elements 124, 146 in enclosures 102, 104, 106, respectively; note that first multiplexer and second multiplexes 124, 126 of each enclosure are interpreted as port bypass circuits), each port bypass circuit being connected to a pair of tracks (**a pair of tracks is connected to each MUX 126 of enclosures 102, 104, 106**, see Fig. 2) which in use

connect to a respective one of each of said devices (**disk devices**, see elements 108, Fig. 2) comprising said fibre channel arbitrated loop (**Fibre Channel Arbitrated Loop**, see element 100, Fig. 2), said hub further comprising second and third switches (**MUX 124 and MUX 126**, see lines 11-19, col. 4 and Fig. 2) operatively controlled by said first switch (**loop coherency circuit**, see lines 11-19, col. 4 and element 122, Fig. 2), said second and third switches (**MUX 124 and MUX 126**, see lines 11-19, col. 4 and Fig. 2) being disposed between respective port bypass circuits (**see elements 124, 126 of the three enclosures 102, 104, 106**, Fig. 2) at which said loop (**Fibre Channel Arbitrated Loop**, see element 100, Fig. 2) is to be split so that in a first state (**steady state**) said second third switches (MUX 124 and MUX 126 of enclosure 102, see Fig. 2) connect said devices in a single loop (**primary loop**) and in a second state (**a break in the primary loop or a node failure**) said pair of switches divide said devices into two split loops (**primary loop and secondary loop**, see lines 55-67, col. 3 and lines 1-7, col. 4).

Regarding claim 2, Hahn discloses an enclosure services card (enclosure 102, see line Fig. 5) as claimed in claim 1 wherein said card includes an enclosure services processor (**the detector circuits**, see elements 134, 136, Fig. 5) operatively connected to said first switch (**loop coherency circuit**, see lines 11-19, col. 4 and element 122, Fig. 5), said enclosure services processor (**the detector circuits**, see elements 134, 136, Fig. 5) being operable to selectively control said first switch to split said fibre-channel devices into two split loops (**control the switching of the multiplexers 124, 146 upon detecting a loop incoherency condition**, see lines 54-60, col. 5).

Regarding claim 3, Hahn discloses an enclosure services card as claimed in claim wherein said first switch (**loop coherency circuit**, see lines 11-19, col. 4 and element 122, Fig. 5) comprises a jumper (**the detector circuits**, see elements 134, 136, Fig. 5), said jumper being configurable to selectively split said fibre-channel devices into two split loops (**control the switching of the multiplexers 124, 146 upon detecting a loop incoherency condition**, see lines 54-60, col. 5).

Regarding claim 7, Hahn discloses a rack enclosure (**loop system**, see element 100, Fig. 2) comprising a processor card as claimed in claim 1, a backplane (**see the backplane that comprises enclosures 102, 104, 106**, Fig. 2) and a plurality of devices (see element 108 of boxes 102, 104, 106, Fig. 2) connected to said backplane forming one or more fibre channel arbitrated loops (see lines 42-47, col. 3).

Response to Arguments

7. Applicant's arguments filed on 12/07/2004 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "rearranging loops to give rise to doubled bandwidth" in the last paragraph of page 8 of the Arguments) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The Applicant's suggestion that the

instant application would allow a double bandwidth for getting data into and out of the system in a split-loop is not claimed in claim 1.

It is noted by the Examiner that Fibre Channel devices (see col. 3, lines 42-54 and Fig. 2) of boxes 102, 104, 106 are interpreted as the devices of the claim. Furthermore, Hahn discloses that a Fibre Channel Arbitrated Loop (see col. 3, lines 42-67 and col. 4, lines 1-10 and element 100, Fig. 2) contains a primary loop (a single loop) that enters each of enclosure at point 112 and egresses from each enclosure at point 114 (see col. 3, lines 42-67 and col. 4, lines 1-10 and Fig. 2) and that MUX 124 and MUX 126 (see Fig. 2) are used as switches to maintain the primary loop (MUXs 124 and 126 connect devices 108 in a primary loop) in a steady state (in a first state, see col. 4, lines 1-19). While in a loop incoherency condition (in a second state), MUXs 124 and 126 are used as switches to control the data flow to the secondary loop (secondary loop enters enclosure at points 118 and 120, see Fig. 2) in conjunction with the remaining coherent section of the primary loop (see col. 4, lines 1-19). The primary loop and the secondary loop may be provided in a single Fibre Channel cable (see col. 4, lines 1-19). This reads on the claim that “said loop is to be split so that in a first state said second and third switches connect said devices in a single loop and in a second state said second and third switches divide said devices into two split loops.” Therefore, claim 1 stands rejected as unpatentable under 35 U.S.C. 102(e) in view of Hahn.

Allowable Subject Matter

8. Claims 4-6 are allowed.
9. Claims 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In claim 4, an enclosure services card as claimed in claim 1 wherein said hub further comprises a further port bypass circuit being connected to a pair of tracks which in use connect to an expansion port through which a further one or more devices can be connected to said loop.

In claim 8, an enclosure services card as claimed in claim 1 wherein said hub further comprises a further port bypass circuit being connected to a pair of tracks which in use connect to an expansion port through which a further one or more devices can be connected to said loop.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 571-272-3141. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



WELLINGTON CHIN
EXAMINER